REMARKS

Favorable reconsideration is respectfully requested in light of the above amendments and the following comments. The claims have been amended to more particularly describe the invention, as supported in the specification, which clearly describe providing resistance to axial elongation without negatively impacting catheter shaft flexibility. See, for example, page 4, lines 15-19 of the specification. New claims 23-27 represent the allowed claims rewritten in independent form, along with appropriate dependent claims. New claim 28 is supported, for example, by original claim 1 and by Figure 3. No new matter has been added.

Applicants hereby affirm the election, without traverse, of Group I (claims 1-20) for examination. Applicants do not concede the correctness of the restriction requirement.

The Examiner has objected to the disclosure for several alleged informalities. With respect to the term "LCP", Applicants note that this term is defined for example on page 10 of the specification as a liquid crystal polymer. With respect to the "braid reinforcement layer 50", Applicants submit herewith a proposed Drawing Change showing, in red ink, suitable corrections. Upon approval, Applicants will submit a Formal Drawing incorporating these changes.

Applicants respectfully traverse the Examiner's rejection of claims 9-10 and 20-21 under 35 U.S.C. § 112, second paragraph, as indefinite. The claims have been amended to positively recite monofilaments comprising liquid crystal polymer, thereby rendering the rejection moot. Favorable reconsideration is respectfully requested.

Applicants respectfully traverse the Examiner's rejection of claims 1-4, 6, 11, 13-15 and 17 under 35 U.S.C. § 102(b) as anticipated by Webster, Jr., U.S. Patent No. 5,057,092. In order to anticipate, the cited reference must disclose each and every element of the claimed invention. Webster fails to do so.

Claims 1 and 13 have been amended to more particularly describe the invention by requiring that the axial member limit elongation of the catheter under conditions of tension without negatively impacting catheter flexibility. As described, for example, at page 13, lines 6-8 and page 14, lines 13-15 of the specification, placing the axial member between the first and second helical members permits relative movement between the helical members and the axial member and thus does not substantially effect the flexibility of the catheter. Using a single axial member (that can be a single element or a plurality of monofilaments) provides a desired level of resistance to elongation without

substantially effecting catheter flexibility.

Webster does not describe this. Instead, Webster describes a braid reinforcing mesh that has a number of longitudinal members that are interwoven with the braid mesh such that the longitudinal members alternate under or over the braid mesh. The plurality of longitudinal members taught by Webster will inherently reduce the flexibility of Webster's catheter. Thus, Webster describes a reinforced catheter that presumably provides a sufficient resistance to tension-induced elongation, but simply cannot be considered as having a level of flexibility comparable to the claimed invention. Webster does not describe the claimed invention and thus cannot be considered to anticipate. Favorable reconsideration is respectfully requested.

Applicants respectfully traverse the Examiner's rejection of claims 5, 7-8, 16 and 18 under 35 U.S.C. § 103(a) as unpatentable over Webster, Jr., U.S. Patent No. 5,057,092, in view of Stinson, U.S. Patent No. 5,891,191. Webster is distinguished above as failing to anticipate the invention of claims 1 and 13. Claims 5, 7-8, 16 and 18 depend from, and further limit these claims and similarly are patentable over Webster.

Stinson is relied upon to suggest the inclusion of helical members made of monofilaments. However, Stinson is directed to a self-expanding stent and thus does not describe an intravascular catheter. Stinson does not describe an intravascular catheter that is resistant to tension-induced elongation while retaining its flexibility. There is no motivation, absent reconstructive hindsight, to even attempt to combine these two references as suggested by the Examiner. Moreover, Stinson fails to remedy the noted shortcomings of Webster and, therefore, fails to meet the claimed invention even if the suggested combination is made. Favorable reconsideration is respectfully requested.

Applicants respectfully traverse the Examiner's rejection of claim 12 under 35 U.S.C. § 103(a) as unpatentable over Webster, Jr., U.S. Patent No. 5,057,092, in view of Ken et al., U.S. Patent No. 5,749,891. Webster is distinguished above as failing to describe or suggest the invention of claim 1. Claim 12 depends from, and further limits, claim 1 and similarly is patentable over Webster.

Ken is relied upon to suggest inclusion of a radiopaque material. However, Ken is directed to an implantable vaso-occlusive device that is a complex, helically wound coil. Ken does not describe a flexible intravascular catheter that is resistant to tension-induced elongation and, therefore, fails to remedy the noted shortcomings of Webster. Favorable reconsideration is respectfully requested.

In view of the amendments and comments presented herein, favorable reconsideration in the form of a Notice of Allowance is respectfully requested. Applicants thank the Examiner for acknowledging the patentability of claims 9, 10, 19, 20 and 21.

Respectfully submitted,

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By their attorney,

Dated: 6/18/02

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Version with Markings to Show Changes Made

In the Claims

Claims 1, 9, 13 and 20 have been amended as follows:

1. (Once Amended) An intravascular catheter comprising an elongate shaft having a lumen extending therethrough, the shaft including an inner polymer layer, a reinforcement layer disposed about the inner layer and an outer polymer layer disposed about the reinforcement layer, the reinforcement layer comprising a tubular braid having a first helical member interwoven with a second helical member and an axial member disposed between the first helical member and the second helical member,

wherein the axial member limits elongation of the catheter under tension but does not substantially reduce catheter flexibility.

9. (Once Amended) An intravascular catheter as in claim 8, wherein the monofilaments comprise liquid crystal polymer [LCP].

13. (Once Amended) An intravascular catheter comprising an elongate shaft having a reinforcement layer comprising a tubular braid having a first helical member interwoven with a second helical member and an axial member disposed between the first helical member and the second helical member,

wherein the axial member limits elongation of the catheter under tension but does not substantially reduce catheter flexibility.

20. (Once Amended) An intravascular catheter as in claim 19, wherein the monofilaments comprise liquid crystal polymer [LCP].